

What is claimed is:

1. A Fresnel lens sheet that condenses imaging light obliquely projected from a projector to let the light emerge toward a viewer's side as nearly parallel rays, comprising:

a base in sheet form; and

a plurality of prisms formed on an incident side of the base, each of the prisms having a plane of refraction that refracts projected light and a plane of total reflection that totally reflects, toward the viewer's side, at least part of the light refracted at the plane of refraction,

wherein each root defined by the plane of refraction of one prism among a plurality of the prisms and the plane of total reflection of another prism, the another prism being situated next to the one prism on the side of the plane of refraction of the one prism, is curved toward the another prism side from the one prism side.

2. The Fresnel lens sheet according to claim 1, wherein, in a cross section of each of the prisms vertical to its edge, a distance of shift, due to curve, of an end of the root is not more than 20% of a prism pitch.

3. The Fresnel lens sheet according to claim 1, wherein, in a cross section of each of the prisms vertical to its edge, a distance of shift, due to curve, of an end of the root is not more than 15% of the prism pitch.

4. The Fresnel lens sheet according to claim 1, wherein, in a cross section of each of the prisms vertical to its edge, a length of the curved portion of the plane of refraction of the root and that of the curved portion of the plane of total reflection of the root are not more than 40% of a total length of the plane of refraction and of a total length of the plane of total reflection, respectively.

5. The Fresnel lens sheet according to claim 1, wherein, in a cross section of each of the prisms vertical to its edge, a length of the curved portion of the plane of refraction of the root and that of the curved portion of the plane of total reflection of the root are not more than 30% of a total length of the plane of refraction and of a total length of the plane of total

reflection, respectively.

6. A process of producing a Fresnel lens sheet having a plurality of prisms formed on its incident side, each of the prisms having a plane of refraction that refracts projected light and a plane of total reflection that totally reflects, toward a viewer's side, at least part of the light refracted at the plane of refraction, comprising the steps of:

- making a mold for use in a molding of the Fresnel lens sheet;
- loading a resin in the mold and curing this resin; and
- releasing, from the mold, the resin that has been loaded in the mold,

wherein, in the step of making the mold, molding grooves are successively cut in a mold material, from a molding groove that corresponds to a prism to be situated on a side close to a light source upon use of the Fresnel lens sheet, to a molding groove that corresponds to a prism to be situated on a side distant from the light source upon use of the Fresnel lens sheet.

7. A process of producing a Fresnel lens sheet having a plurality of prisms formed on its incident side, each of the prisms having a plane of refraction that refracts projected light and a plane of total reflection that totally reflects, toward a viewer's side, at least part of the light refracted at the plane of refraction, comprising the steps of:

- making a master mold that is an original of a mold for use in a molding of the Fresnel lens sheet;
- reproducing a mold from the master mold;
- loading a resin in the reproduced mold and curing this resin; and
- releasing, from the mold, the resin that has been loaded in the mold,

wherein, in the step of making the master mold, molding grooves are successively cut in a material for the master mold, from a molding groove that corresponds to a prism to be situated on a side close to a light source upon use of the Fresnel lens sheet, to a molding groove that corresponds to a prism to be situated on a side distant from the light source upon use of the Fresnel lens sheet.

8. A mold for use in a molding of a Fresnel lens sheet having a plurality of prisms formed on its incident side, each of the prisms having a plane of refraction that refracts projected light and a plane of total reflection that totally reflects, toward a viewer's side, at least part of the light refracted at the plane of refraction,

wherein the mold is made by successively cutting molding grooves in a mold material, from a molding groove that corresponds to a prism to be situated on a side close to a light source upon use of the Fresnel lens sheet, to a molding groove that corresponds to a prism to be situated on a side distant from the light source upon use of the Fresnel lens sheet, and

each angular protrusion created between two neighboring molding grooves is curved toward the molding groove that corresponds to the prism to be situated on the side close to the light source upon use of the Fresnel lens sheet, from the direction of the molding groove that corresponds to the prism to be situated on the side distant from the light source upon use of the Fresnel lens sheet.

9. A master mold that is an original of a mold for use in a molding of a Fresnel lens sheet having a plurality of prisms formed on its incident side, each of the prisms having a plane of refraction that refracts projected light and a plane of total reflection that totally reflects, toward a viewer's side, at least part of the light refracted at the plane of refraction,

wherein the master mold is made by successively cutting molding grooves in a material for the master mold, from a molding groove that corresponds to a prism to be situated on a side close to a light source upon use of the Fresnel lens sheet, to a molding groove that corresponds to a prism to be situated on a side distant from the light source upon use of the Fresnel lens sheet, and

each angular protrusion created between two neighboring molding grooves is curved toward the molding groove that corresponds to the prism to be situated on the side close to the light source upon use of the Fresnel lens sheet, from the direction of the molding groove that corresponds to the prism to be situated on the side distant from the light source upon use of the Fresnel lens sheet.

10. A rear projection screen comprising:  
a Fresnel lens sheet as set forth in claim 1; and  
a light-diffusing sheet placed on a viewer's side of the Fresnel lens sheet.